

REMARKS

Claims 1-34 are currently pending in the subject application, and are presently under consideration. Claims 1, 2 and 4 - 34 are rejected. Claim 3 has been indicated as allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 10 has been amended. Favorable reconsideration of the application is requested in view of the amendments and comments herein.

I. Rejection of Claim 2 under 35 U.S.C. 112

The Office Action rejects claim 2 under 35 U.S.C. 112, second paragraph as having insufficient antecedent bases for the limitation "the given one of the requests" in line 2. Applicant traverses this rejection for the following reasons.

Applicant respectfully disagrees with the contention that Claim 2 lacks sufficient antecedent basis for this limitation. Claim 2 depends from claim 1, which recites, "...the first node providing a response to a given one of the requests to the first node." Therefore, there is sufficient antecedent basis for this limitation of claim 2. Applicant respectfully requests withdrawal of this rejection.

II. Rejection of Claim 1 under 35 U.S.C. 102(e)

Claim 1 has been rejected under 35 U.S.C. 102(e) as being anticipated by U.S. patent publication No. 2004/0002992 to Cypher ("Cypher"). Applicant traverses this rejection for the following reasons.

The Office Action contends that Cypher discloses the system recited in claim 1. Applicant respectfully disagrees with this contention. First, Cypher does not teach, disclose, or suggest that a detector associated with the first node detects a condition based upon responses provided by the first node based on responses provided by the first node to requests provided to the first node. Cypher fails to teach or suggest any structure that performs the function of the detector recited in claim 1. Second, Cypher does not teach or suggest that the requests provided to the first node are provided according to a second cache coherency protocol that is different from the first cache coherency protocol employed by the first node. Instead, Cypher provides the example of a system which selectively transmits requests either using either a broadcast mode (first cache coherency protocol) or a point-to-point mode (second cache coherency protocol). Cypher par. [0011] and [0033]. Moreover, Cypher also fails to teach, disclose or suggest the first node providing a response to a given one of the

requests to the first node (provided to the first node according to the second cache coherency protocol) that varies based on the condition detected by the detector.

Since Cypher fails to disclose claim 1, claim 1 is not anticipated by Cypher. Accordingly, Applicant respectfully requests reconsideration and allowance of claim 1 as well as claims 2 to 14 which depend from claim 1.

III. Rejection of Claims 2, 4-14 under 35 U.S.C. 103(a)

Claims 2, 4-14 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Cypher in view of U.S. patent publication No. 2005/0251631 to Rowlands ("Rowlands"). Applicant traverses this rejection for the following reasons.

Regarding claim 2, the Office Action admits Cypher fails to teach the first node that provides a non-data conflict response to a source node that provides the given one of the requests to the first node, the non-data conflict response varying based on the condition detected by the detector, as recited in claim 2. Additionally, Rowlands fails to teach or suggest that the first node provides a non-data conflict response to a source node that provides the given one of the requests to the first node, the non-data conflict response varying based on the condition detected by the detector. Instead, Rowlands discloses a virtual channel, which is an abstract connection through a single medium. Rowlands par. [0009] lines 11 to 14. Rowlands further discloses that the virtual channels are realized by introducing separate flow controls for each abstract channel, and adding buffers on each side of the physical medium. Rowlands par. [0009] lines 15 to 18. Then, Rowlands discloses if the system employs enough virtual channels in the system, to eliminate dependencies, deadlocks should be avoided. See Rowlands par [0010]. Therefore, Rowlands discloses that virtual channels are used to avoid deadlocks but fails to disclose that non-data conflict responses are used to prevent deadlocks.

Rowlands further does not teach or suggest the first node provides a non-data conflict response to a source node as recited in claim 2. Instead, Rowlands discloses a system in which for a PROBE transaction, whether cFlush or Kill, the L2 cache must remember to invalidate its copy of the data because it may have to transmit the line to the node controller before the data phase of the allocating read command. See Rowlands par. [0073] lines 1 to 6. Rowlands teaches a solution to this potential problem by using a semaphore flag LL to distinguish between a cFlush and Kill command on the shared multiprocessor bus. See Rowlands par. [0074]. Both the cFlush and Kill commands are commands and not non-data

conflict responses, as recited in claim 2. See Rowlands FIG. 14. The example in Rowlands of setting a semaphore flag in response to a Kill command is an event that takes place within a node which receives the Kill command does not correspond to a non-data conflict response from a first node to a source node, as recited in claim 2. See Rowlands par [0074]. The example in Rowlands of setting the semaphore is employed to prevent a deadlock condition. See Rowlands par. [0073] and [0074]. This is in sharp contrast to the non-data conflict response provided by the first node of claim 2 in which the non-data conflict response varies based on the condition detected by the detector (see claim 1). However, Rowlands fails to disclose using non-data conflict responses to avoid and prevent deadlocks, as suggested in the Office action, and instead Rowlands discloses using semaphore flags (being local within a given node) and virtual channels to avoid deadlocks.

Since, Rowlands and Cypher, taken individually and in combination, fail to disclose non-data conflict responses provided by the first node, to a source node, as recited in claim 2, one of ordinary skill in the art at the time of the invention would not be motivated to combine the system of Cypher with the system of Rowlands to create the system of claim 2. For these reasons, Applicant respectfully requests reconsideration and allowance of claim 2.

Rowlands fails to teach, suggest or disclose a detector that detects a starvation condition associated with a pending transaction for data at the first node employing the first cache coherency protocol, as recited in claim 4. Instead, Rowlands teaches a system that may eliminate dependencies by using enough virtual channels, so deadlocks should be avoided. Rowlands par. [0010]. Detection of a starvation condition is not taught or suggested in Rowlands because the system of Rowlands eliminates deadlocks (which suggests elimination of starvation conditions) through the use of enough virtual channels. Since Rowlands fails to teach or suggest a starvation detector, but instead discloses the use of multiple virtual channels and a semaphore, one of ordinary skill in the art would not be motivated to implement a starvation detector in the system of Cypher consistent with what is recited in claim 4. Accordingly, Applicant respectfully requests reconsideration and allowance of claim 4.

In contrast to the contention of the Office Action, Rowlands fails to teach or suggest a detector that further comprises a counter that tracks a number of responses provided by the first node to the request to the first node according to the second cache coherency protocol, as recited in Claim 5. Rowlands instead discloses that each home node tracks local cache lines that it lends out to other nodes to maintain coherency. Rowlands par. [0066]. Further,

Serial No. 10/760,436

Docket No. 200313632-1

Rowlands discloses that the remote line directory keeps track of state information based on time of access on the multiprocessor bus. Rowlands par. [0069]. However, nothing in Rowlands suggests the use of counters for tracking a number of responses provided by the first node (employing the first cache coherency protocol) to requests to the first node according to the second cache coherency protocol, as recited in claim 5. Accordingly, Applicant respectfully requests reconsideration and allowance of claim 5.

Claim 6 depends upon the system of claim 5 and is patentable for at least the same reasons as claim 5. Additionally, in contrast to the contention in the Office Action Rowlands fails to disclose the subject matter of claim 6. As discussed in regard to claim 5, Rowlands fails to teach or suggest a counter that tracks the number of conflict responses provided by the first node. Rowlands further fails to teach, disclose or suggest a threshold, as recited in claim 6, at least because Rowlands does not teach or suggest a counter that tracks the number of responses for use with the threshold. For instance, why would Rowlands teach or suggest a threshold that sets the number of responses provided by the first node to cause the first node to provide a conflict response, when Rowlands does not teach or suggest a counter or other mechanism to track the number of responses as recited in claim 5? That is, there would be no motivation to utilize a threshold in Rowlands (of the type recited in claim 6) because Rowlands does not teach or suggest a number of responses provided by the first node operative to cause the first node to provide a conflict response. In contrast, Rowlands teaches the use of message buffers and tracks buffer free space so that a response not immediately processed would be stored in one of the buffers for the virtual channel. See Rowlands par. [0088]. Rowlands further teaches that transmitting messages would be terminated if there is no free buffer space for such messages. See Rowlands at par. [0088] and [0089]. Therefore, the system of Rowlands uses buffers, so that multiple conflict responses are not taught or suggested. Moreover, Rowlands teaches that the information tracked at par [0067] to [0069] corresponds to information about the state of the cache, and not any information about the number of responses. Rowlands further fails to teach or suggest causing the requesting node to switch from the second cache coherency protocol to employ the first cache coherency protocol based upon a conflict response provided by the first node, as recited in claim 6. Accordingly, Applicant respectfully requests reconsideration and allowance of claim 6.

The Office Action contends that Rowlands discloses the system of claim 7. Applicant respectfully disagrees with this contention. Instead, similar to as discussed above, Rowlands

discloses a system using virtual channels to eliminate dependencies, therefore deadlocks should be avoided. In Rowlands, the virtual channels are employed to guarantee forward progress. Applicant submits that the approach taken in Rowlands should effectively eliminate the need for conflict modes since Rowlands suggests that conflicts should be prevented due to the use of enough virtual channels along with their requisite buffers. See Rowlands par. [0010]. Additionally, Rowlands does not teach, suggest or disclose any conflict modes. Since Rowlands fails to teach use of conflict modes as recited in claim 7, the combination of Cypher and Rowlands consequently also fails to teach or suggest switching from the first conflict mode to the second conflict mode based on the condition detected by the detector. Therefore, one of ordinary skill in the art would not be motivated to combine the teachings of Rowlands with that of Cypher to create the system of claim 7. Accordingly, Applicant respectfully requests reconsideration and allowance of claim 7.

Regarding claim 8, the Office action contends that Rowlands discloses the system of claim 8, wherein the condition detected by the detector corresponds to a starvation condition associated with the pending transaction for the data at the first node employing the first cache coherency protocol. Applicant respectfully disagrees with this contention. Similar to as previously stated in relation to claim 4, Rowlands fails to teach, suggest, or disclose a detector which detects a starvation condition, and, more specifically, fails to teach a starvation condition associated with the pending transaction or the data at the first node employing the first cache coherency protocol, as recited in claim 8. Applicant respectfully requests reconsideration and allowance of claim 8.

The Office Action rejects claim 9 relying on paragraph [0074] of Rowlands, which teaches the use of semaphore flags implemented internally within a node in response to data commands allowing a cFlush or Kill command to invalidate the L2 cache's copy of the line in order to not impair forward progress. See Rowlands par. [0073] and [0074]. The use of a semaphore flag and virtual channels, as disclosed in Rowlands, is a conflict prevention method. See Rowlands par. [0074]. However, Rowlands fails to teach, disclose, or suggest conflict responses or conflict modes employing the first cache coherency protocol. Additionally claim 9 recites that first conflict response is provided by the first nodes while in the first conflict mode which enables progression of requests provided according to the second cache coherency protocol. No use of a semaphore flag disclosed in Rowland provides or enables progression of requests according to the second cache coherency protocol while the first conflict mode, as recited in claim 9. Therefore, combining the teachings of Cypher

with the teachings of Rowlands would not motivate one skilled in the art to create the system of claim 9. Accordingly, Applicant requests reconsideration and allowance of claim 9.

Claim 10 has been amended merely to correct a typographical error and now depends from claim 9. As discussed with respect to Claim 9, the system disclosed in Rowlands fails to disclose first and second conflict responses and first and second conflict modes.

Therefore, the teachings of Cypher in light of the teachings of Rowlands would not motivate one of ordinary skill in the art to create the system of Claim 10. Additionally, Rowlands fails to teach or suggest that the first node provides a first conflict response while in the first conflict mode which enables progression of requests provided according to the second cache coherency protocol. Instead, Rowlands discloses that requests are maintained in buffers at each side of the physical medium and that Rowlands may use buffer free packets so a receiver is always able to receive a packet. See Rowlands par. [0009] and [0089]. Rowlands discloses that a receiver must always be able to receive a packet, and that a packet in this system will not be sent when the buffer limits at the target node have been exceeded. See Rowlands par. [0089]. Moreover, the combination of Rowlands and Cypher fails to suggest the recited interaction and interrelationship between different cache coherency protocols. Therefore, the system of Rowlands fails to teach providing a second response, while in the second conflict mode which causes requests provided according to the second cache coherency protocol to reissue as corresponding requests according to the first cache coherency protocol. Accordingly, Applicant requests reconsideration and allowance of Claim 10.

Claim 11, which depends from claim 1, is patentable over the combination of Cypher in view of Rowlands for similar reasons to those discussed above in relation to claim 1. Rowlands and Cypher, whether taken individually or in combination, fail to teach or suggest a system that includes the data in a cache line having a first state defines the owner node as an ordering point for the data. Instead, Rowlands discloses an exemplary system having two ordering points where ownership is passed. See Rowlands par. [0061] and [0062]. However, Rowlands fails to teach, disclose or suggest that data in a cache line having a first state that defines the owner node as an ordering point for the data, as recited in claim 11.

Also in regard to Claim 11, the Office Action contends that Cypher discloses the data in a cache line having a first state that defines the owner node as an ordering point for the data. In Cypher, ordering points are disclosed where various ordering points are established within a home node. See Cypher par. [0075]. Cypher further discloses a directory based

Serial No. 10/760,436

Docket No. 200313632-1

protocols and the directories which contain information indicating cached copies of data. Cypher par. [0007] and [0048]. Additionally, Cypher discloses that to accommodate transitions from broadcast mode to point to point mode, directory information may be maintained for each address in the directory entry of the directory, even for broadcast mode transactions. See Cypher par. [0057] lines 14-21. Then Cypher discloses that this updating the directory as described, the current owner of the coherence unit is known, and proper actions as dictated by the directory protocol can be carried out. Cypher par. [0057] lines 21 to 25. However, Cypher fails to teach or suggest data in a cache line having a first state that defines the owner node as an ordering point for the data, as recited in claim 11. Instead, Cypher discloses that for point-to-point transactions a directory is employed in each memory subsystem 144 (not in cache 280). Cypher at par. [0048] and Fig. 2. Thus, the directory information disclosed in Cypher at par. [0057] relates to information that is contained in the memory subsystem and not in cache. For these reasons, Cypher and Rowlands, individually or in combination, do not teach, disclose, or suggest a cache line having a first state that defines the owner node as ordering point for the data. Therefore, the teachings of Cypher in view of Rowlands would not motivate one of ordinary skill in the art to create a system of claim 11. Accordingly, Applicant requests reconsideration and allowance of Claim 11.

IV. Rejection of Claims 15-34 under 35 U.S.C. 103(a)

Claims 15-34 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Rowlands in view of Cypher. Applicant traverses this rejection for the following reasons.

As stated above with respect to claim 2, Rowlands does not teach, suggest, or disclose conflict responses. Instead, Rowlands discloses methods to avoid conflicts, for example by setting a semaphore to distinguish between the cFlush and Kill commands on the multiprocessor bus, thereby should be able to guarantee forward progress. See Rowlands par. [0074]. Rowlands suggests an action (setting a semaphore flag) occurs prior to a conflict condition, therefore, Rowlands discloses a conflict prevention method that does not teach or suggest a conflict response, as recited in claim 15. See Rowlands par. [0074].

Moreover, Rowlands fails to teach or suggest providing a first type of conflict response to the source broadcast request for the desired data while in a first operating mode. Instead, Rowlands teaches employing semaphores to distinguish the cFlush and Kill commands on the MP bus, which features would be implemented prior to the occurrence of a conflict condition. See Rowlands par. [0074]. Therefore, in Rowlands, a semaphore is set so

that the system disclosed in Rowlands can guarantee forward progress, such that no mechanism is disclosed for providing a conflict response. Additionally, Rowlands fails to teach or suggest the another processor switching to a second operating mode after providing at least one of the first type of conflict responses as recited in claim 15. Accordingly, Applicant respectfully requests reconsideration and allowance of claim 15 as well as claims 16 to 22 which depend from claim 15.

Regarding claim 16, the Office Action contends that Rowlands discloses that the second type of conflict response causes the requesting processor node to employ the forward progress cache coherency protocol in connection with completing the source broadcast request for the desired data. Applicant respectfully disagrees with this contention. Rowlands discloses that forward progress should be guaranteed by the use of semaphores and by distinguishing the cFlush and Kill commands on the MP bus. See Rowlands par. [0074] lines 9-18. However, Rowlands fails to disclose that a conflict response causes the requesting processor node to employ the forward progress cache coherency protocol in connection with completing the source broadcast request for the desired data. No selection of any protocol is suggested in Rowlands. The use of multiple coherency protocols according to Cypher, however, does not cure the deficiencies Rowlands since Cypher contains no teaching or suggestion that either of the protocols (the broadcast or point-to-point modes) operate to cause a requesting processor to employ a forward progress protocol in connection with completing a source broadcast request for data. Instead, Cypher teaches that one of the modes is selected and utilized to complete a transaction based on the transaction that is issued by a requestor or based on use of particular memory address regions. See Cypher generally at par. [0042] to [0046]. Therefore, Rowlands and Cypher, either separately or in combination, do not teach, suggest, or disclose claim 16. Applicant respectfully requests reconsideration and allowance of claim 16.

Applicant respectfully disagrees with the contention that Rowlands discloses claim 17. As previously discussed in support of claim 2, Rowlands discloses that forward progress is maintained through the use of semaphore flags and distinguishing the cFlush and Kill on the MP bus. See Rowlands par. [0074]. Rowlands also discloses that the remote line directory keeps track of the state of cache lines at the home node using a remote line directory. See Rowlands par [0066] to [0069]. However, the state of cache lines as disclosed in Rowlands is not a quantity of conflict responses provided by the another processor node. Instead, the tracking of information relates to tracking the state of cache lines (Rowlands par.

Serial No. 10/760,436

Docket No. 200313632-1

[0066]), in contrast to tracking a quantity of responses as recited in claim 17. Additionally, for the reasons previously stated in support of claim 5 and 6, Rowlands fails to disclose a quantity of conflict responses detected by a detector. In light of Rowlands failing to disclose the quality of conflict responses detected by a detector, Rowlands also fails to disclose that the another processor node switching from the first operating mode to the second operating mode based on the quantity of the first type of conflict responses detected by the detector. Applicant respectfully requests reconsideration and allowance of claim 17.

In regard to claim 18, which depends from claim 17, the Office Action states that Rowlands discloses the detector further comprises a starvation detector that detects a starvation condition associated with the pending transaction for the desired data at the another processor node. Applicant respectfully disagrees with this contention. As previously discussed in support of claim 4, Rowlands fails to teach or suggest a detector further comprises a starvation detector that detects a starvation condition. Also, Rowlands fails to disclose that a starvation condition is associated with the pending transaction for the desired data at another processor node. In contrast, as stated in support of claim 2, Rowlands discloses that a system with buffers can be employed to prevent deadlocks, which, in turn, suggests preventing a starvation condition. Therefore, the system of Rowlands, either separately or in combination with the system of Cypher, fails to teach or suggest claim 18. Applicant respectfully requests reconsideration and allowance of claim 18.

Contrary to the contention of the Office Action, the Applicant respectfully disagrees that Rowlands teaches or suggest claim 19, which depends from claim 18. As argued in support of claim 4 and 18, Rowlands fails to teach, or suggest a starvation detector. As similarly discussed in regard to claim 2, Rowlands also fails to teach, disclose or suggest a first type conflict responses provided by the another processor node. Additionally, as stated in support of claims 5 and 17, Rowlands fails to teach, disclose or suggest a counter that counts the quantity of conflict responses. Therefore, Rowlands does not disclose claim 19, for at least these reasons and for the reasons given in support of claim 18. Applicant respectfully requests reconsideration and allowance of claim 19.

In regard to claim 20, as stated above in support of claim 6, Rowlands fails to disclose the starvation detector further comprises a threshold that defines the number of the first type of conflict responses provided by the another processor node after which the another processor node will switch to the second operating mode. Also, as stated in regard to claim 2, Rowlands also fails to teach or suggest a first type of conflict responses provided by the

Serial No. 10/760,436

Docket No. 200313632-1

another processor node. As discussed in support of claim 7, Rowlands also fails to teach or suggest that a processor node will switch from a first operating mode to a second operating mode. In light of the deficiencies of Rowlands in view of Cypher, one of ordinary skill in the art would not be motivated to create the system of claim 20. Accordingly, Applicant requests reconsideration and allowance of claim 20.

Claim 21 depends from claim 15 which is patentable over Rowlands in view of Cypher at least for the reasons stated in support of claim 15. The Office Action contends that Rowlands discloses claim 21. As previously discussed in support of claim 2, however, Rowlands fails to teach or suggest a non-data conflict response and also fails to disclose either a first or second type of non-data conflict response. Therefore, at least for these reasons, claim 21 is patentable over Cypher and Rowlands. Accordingly, Applicant respectfully requests reconsideration and allowance of claim 21.

Claim 22 is patentable for at least the reasons stated above for claim 15. Claim 22 also is patentable over the combination of Cypher with Rowlands for reasons similar to those discussed above with respect to claim 11, in relation to transitioning a state of the associated cache line of the requesting processor node to define the requesting processor node as a new cache ordering point for the data. Accordingly, Applicant requests reconsideration and allowance of claim 22.

Regarding claim 23, the Office action relies on the rational used to reject claims 15 and 18. This rational is deficient as applied to claim 23 for reasons similar to those discussed above with respect to claims 15 and 18. For example, neither Cypher nor Rowlands, taken individually or in combination, teaches or suggest the means for providing a first type of conflict response to the at least one request for the line of data from the target node prior to detecting a starvation condition associated with the pending transaction for the line of data. Accordingly, for the reasons stated above with respect to claims 15 and 18, Applicant respectfully requests reconsideration and allowance of claim 23 as well as claims 24 to 28 which depend from claim 23.

Claim 25 is patentable for reasons similar to at least the reasons stated above with respect to claims 23 and 16.

The Office Action contends that Rowlands discloses a second type of conflict response causes the at least one request for the line of data to reissue employing the first cache coherency protocol. Applicant respectfully disagrees with this contention. As similarly stated in support of claim 2, Rowlands fails to teach or suggest second types of

conflict responses. Instead, Rowlands discloses a system that uses buffers and virtual channels to prevent deadlock conditions, which do not utilize a first type of conflict responses to permit the request to progress according to the second cache coherency protocol (when the target node is employing the first cache coherency protocol), as recited in claim 25. See Rowlands at Par. [0010]. Additionally, Rowlands fails to teach or suggest that the second type of conflict response causes the at least one request for the line of data to reissue employing the first cache coherency protocol. Applicant requests reconsideration and allowance of claim 26.

Claim 27 is allowable over Rowlands for reasons similar to those stated previously for claim 18. For instance, Rowlands fails to teach or suggest a means for detecting the starvation condition associated with the pending transaction for the line of data at the target node. Additionally, the system of Rowlands uses enough virtual channels in a system (along with their requisite buffer resources) to eliminate dependencies, deadlocks should be avoided. See Rowlands par. [0010]. Therefore, the system of Rowlands suggests avoiding starvation conditions associated with the pending transaction for the line of data at the target node by employing its virtual channels and buffers. See Rowlands at Par. [0073] and [0074].

Accordingly, Applicant requests reconsideration and allowance of claim 27.

Claim 28 is patentable for reasons similar at least to the reasons stated above with respect to claims 19 and 20.

Claim 29 is patentable at least for reasons similar at least to the reasons stated above with respect to claims 15 and 17.

In regard to claim 30, the Office Action contends that Rowlands discloses the predetermined condition corresponds to a starvation condition associated with the pending transaction at the target node. As previously stated above in support of claims 4 and 27 Rowlands fails to teach, disclose or suggest a starvation condition. Therefore, Rowlands fails to teach or suggest that a predetermined condition corresponds to a starvation condition. Accordingly, Applicant requests reconsideration and allowance of claim 30.

Claim 31 is patentable at least for reasons similar to the reasons stated above with respect to claims 5, 6 and 20. For example, Rowlands fails to teach or suggest a method of counting conflict responses, and fails to disclose or suggest starvation conditions. Therefore, neither Rowlands, Cypher nor the combination of Rowlands in view of Cypher would motivate one of ordinary skill in the art to create the system of claim 31. Accordingly, Applicant requests reconsideration and allowance of claim 31.

Claim 33 is patentable for reasons similar at least to the reasons stated above with respect to claim 25.

Claim 34 is patentable for reasons similar at least to the reasons stated above with respect to claim 26.

V. ALLOWABLE SUBJECT MATTER

Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 3 is dependent from claim 2 and should be patentable without being rewritten in independent form, as claim 2 is patentable for the reasons stated above with respect to claim 1 and for the reasons stated with respect to claim 2.

VI. CONCLUSION

In view of the foregoing remarks, Applicant respectfully submits that the present application is in condition for allowance. Applicant respectfully requests reconsideration of this application and that the application be passed to issue.

Should the Examiner have any questions concerning this paper, the Examiner is invited and encouraged to contact Applicant's undersigned attorney at (216) 621-2234, Ext. 106.

No additional fees should be due for this response. In the event any fees are due in connection with the filing of this document, the Commissioner is authorized to charge those fees to Deposit Account No. 08-2025.

Respectfully submitted,

By: 
Gary J. Pitzer
Registration No. 39,334
Attorney for Applicant(s)

CUSTOMER NO.: 022879

Hewlett-Packard Company
Legal Department MS 79
3404 E. Harmony Road
Ft. Collins, CO 80528